

Basics of Skin for the Body Artist

Quincy Health Department

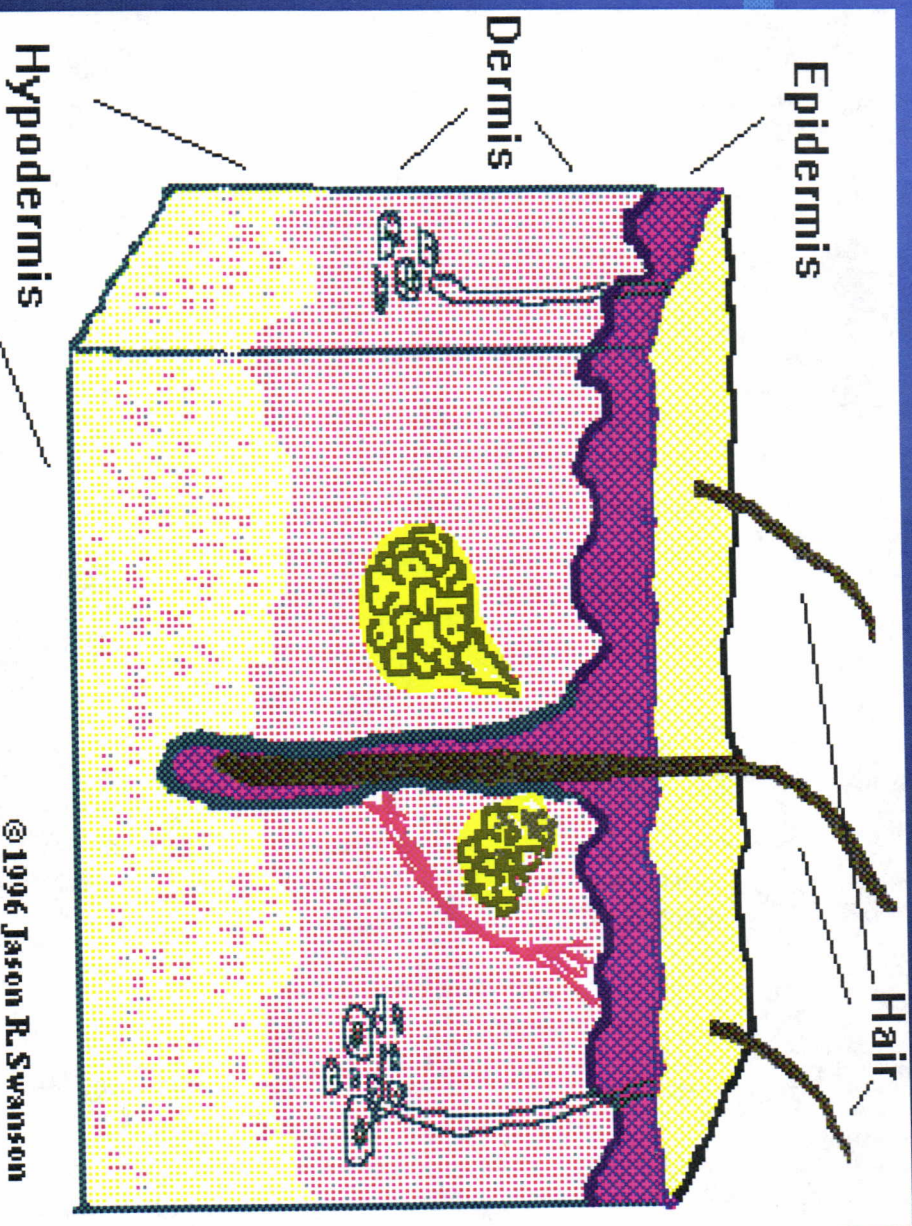
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Seminar goals

- Understand skin structure and function
- Recognize common skin lesions
- Anticipate and minimize adverse events

Structure and function of the skin

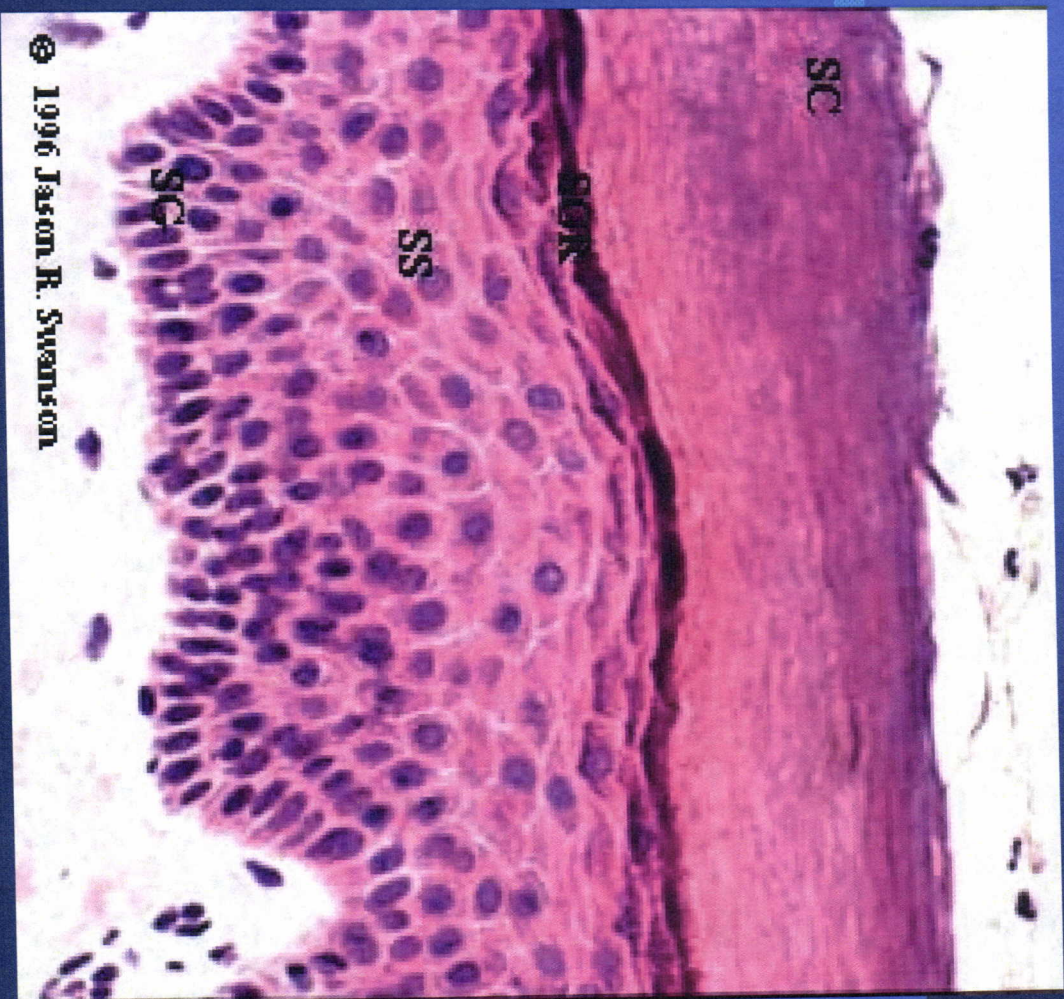
- epidermis - barrier to moisture, chemicals via cornified envelope, lipids
- dermis - structural scaffold, with tensile strength, vessels, nerves, collagen
- subcutis – fat, as insulation for temperature and trauma



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Epidermis

- top: cornified, no viable skin cells; few immune system cells (too many suggest infection or inflammation)
- bottom: regenerative basal cells, melanocytes
- turnover time - 1 month (2 weeks basal, 2 weeks upward migration and sloughing)
- disorders of turnover/maturation: psoriasis, ichthyosis, basal/squamous cell carcinomas
- scars: translucent, visible vessels, loss of skin markings



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Dermis

- site of target for tattoo pigment (perivascular)
- scarring
post-inflammatory hyperpigmentation
fibrosis, keloids
ulcer or erosion

Subcutis

- atrophy – indentation due to loss of fat in the subcutis, at times caused by some injections, oral medications, inflammatory disorders
- panniculitis – inflammation of the subcutis

Antimicrobial agents: topical

- **isopropyl alcohol** (isopropanol) – effective at killing most bacteria, but poor for yeast and some viruses
- **iodine (Betadine)** – effective against more fungi/yeast; needs to dry to be effective
- **petroleum jelly (Vaseline)** – effective at preventing wound infection, improves wound healing
- **bacitracin, neomycin, neosporin, polymyxin, triple antibiotics** – effective in wound infection, but may cause allergic dermatitis (rarely anaphylaxis)

Antimicrobial agents: oral

- **antibiotics:** particular antibiotics can kill or halt the replication of specific types of bacteria
- **antivirals:** herpes, shingles, HIV, hepatitis
- **antifungals:** extensive fungal rash, nail infection

Complications in non-intact skin

- **Infections**
 - Bacterial
 - Viral
 - Fungal
- **Hypersensitivity**
- **Scars**
- **Photosensitivity**

Bacterial infections

- **strep, staph** common; fresh water inhabitants
- incubation period: days
- skin findings: redness, swelling, honey-colored crust, pain, thick/cloudy discharge, furuncle
- systemic symptoms: fever, "flu-like" symptoms
- treatment: antibiotics
 - small area, no fever - topical
 - large area, blisters, large red "halo," fever - oral)

Viral infections

warts, molluscum contagiosum

skin-colored or pink papules (small raised solid skin lesion)

incubation period: days to weeks; perhaps months

treatment: OTC salicylic acid "wart/corn remover" at bedtime, apply under tape

molluscum on the face - may suggest immune system deficiency

Viral infections, continued

- **herpes** - small grouped blisters, later clustered small crusts
- incubation period: days
- recurrent vs. primary; if frequent or severe with potential scarring, seek medical assistance
- **hepatitis C, B** - via blood-to-blood contact (needle, direct blood contact, equipment)

Fungal infections

yeast, plant-borne - e.g. sporotrichosis with
rose thorn)

unlikely in healthy patient

Hypersensitivity to tattoo pigments

<u>Color</u>	<u>Pigment</u>	<u>Dermatitis</u>
white	titanium	
yellow	cadmium	<i>photosensitivity</i>
green	chromium, copper	
blue	cobalt	
red	mercury	<i>contact dermatitis</i>
purple	manganese	
black	carbon	
brown	iron	

Pigments in the skin

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Abnormal scarring reactions

Hypertrophic scarring

Keloids

Psoriasis

Common skin lesions

acne

folliculitis

keratosis pilaris (KP)

eczematous dermatitis

fungal infections (tinea)

parasitic (lice, scabies)

viral infections - warts,

herpes, shingles/zoster

keloids

moles (pigmented nevi)

burns (sunburns)

seborrheic keratosis

actinic keratoses

psoriasis

Skin cancer

melanoma – should be evaluated as soon as possible to diagnose and treat

basal cell carcinoma – pink-yellow, pearly, sun-exposed areas (face, upper body, arms)

squamous cell carcinoma – pink, scaly, sun-exposed areas

Moles (pigmented nevi)

concerning for melanoma, a potentially lethal form of skin cancer

- A** asymmetry
- B** border irregularity
- C** color (more than 1 per mole, or 1 mole that is darker than all others)
- D** diameter (larger than 6 mm, the size of a pencil head eraser)
- E** evolution (new in an adult, growing, disappearing, bleeding darkening, itching, etc.)

Precautions

Diabetes – increased risk of infection (especially on the legs), slower healing

Psoriasis – Koebner phenomenon

Immune suppression (cancer, chemotherapy, AIDS)

Sickle-cell anemia – increased risk of bacterial infection

Artificial heart valve, mitral valve prolapse (MVP) – risk of heart valve infection from even a small amount of bacteria introduced into the skin, as in a dental cleaning

Precautions, continued

Artificial joint, some stents or shunts – risk of infection

Hemophilia or blood thinning medications
(aspirin, Advil-Motrin-Naproxen, Coumadin)

Pregnant women

Poor healers – chronic ulcer, scar, keloid